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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,123	03/25/2004	Yoshimoto Matsuda	ACO 387	9208

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EXAMINER

BASINGER, SHERMAN D

ART UNIT PAPER NUMBER

3617

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,123

Applicant(s)

MATSUDA, YOSHIMOTO

Examiner

Sherman D. Basinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 8,9 and 13-15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/21/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Oath/Declaration

1. The declaration filed under 37 C.F.R. 1.63 in response to the notice of a missing or unsigned declaration has been received.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6, 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchino et al in view of Kobayashi and Blanchard.
Uchino et al discloses a water-jet propulsion personal watercraft, comprising a body including a hull 1 and a deck covering the deck from above, a water jet pump 32 configured to propel the watercraft and including a pump shaft 33 extending in a longitudinal direction of the body; a four-cycle engine 6 mounted within the body and configured to drive the water jet pump, wherein the engine includes a crankshaft 12; an output shaft 17 extending in a direction substantially perpendicular to the crankshaft and connected to the pump shaft, the output shaft being configured to

output rotation transmitted from the crankshaft to outside the engine, and a rotation transmission system 14,21,22,26 configured to transmit the rotation of the crankshaft to the output shaft, wherein the engine is mounted within the body in such a manner that the crankshaft extends in a width direction of the body.

Uchino et al does not disclose the engine being a V-type having a front-side cylinder inclined to extend

upward and forward and a rear-side cylinder inclined to extend upward and rearward.

Kobayashi et al discloses for a watercraft similar to that of Uchino et al a V type engine which can be a four cycle engine and Blanchard disclose a four cycle V-type engine having a front-side cylinder inclined to extend

upward and forward and a rear-side cylinder inclined to extend upward and rearward.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains in view of the V-type engines of Kobayashi et al and Blanchard to modify the engine of Uchino et al to be a V-type engine having a front-side cylinder inclined to extend

upward and forward and a rear-side cylinder inclined to extend upward and rearward.

Kobayashi et al teaches that V-type engines can be used in personal watercraft.

Motivation to make the engine of Uchino et al a V type engine is to obtain the benefits of the use of such engines. Such engines are shorter in length than in line engines when having the same number of cylinders.

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In Uchino et al the drive gear mounted on the crank web of the crankshaft is 14, the intermediate shaft mounts intermediate gear 21 and the input side bevel gear 22 and the output side bevel gear is 26.

Claim 6 is clearly met by the different sizes of the transmission gears shown in Uchino et al.

The output shaft of Uchino et al is shown in figure 3 as being supported by the rear wall of the crank chamber.

Uchino et al does not disclose an exhaust system passage extending from a cylinder head of the engine, and an air cleaner box provided in an air-intake system of the engine, wherein the exhaust system passage is provided on one end side of the crankshaft and the air cleaner box is provided on an opposite side of the crankshaft.

Kobayashi et al discloses in figure 4 an exhaust system passage 43 extending from a cylinder head of the engine, and an air cleaner box 41 provided in an air-intake system of the engine, wherein the exhaust system passage 43 is provided on one end side of the crankshaft and the air cleaner box 41 is provided on an opposite side of the crankshaft.

In view of the location of the air cleaner box and the exhaust system passage of Kobayashi et al it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to provide to the modified engine of Uchino et al an exhaust system passage extending from a cylinder head of the engine, and an air cleaner box provided in an air-intake system of

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the engine, wherein the exhaust system passage is provided on one end side of the crankshaft and the air cleaner box is provided on an opposite side of the crankshaft.

Motivation to do so is to balance the location of the air intake system and the exhaust system with respect to the engine compartment when the engine is mounted transversely of the watercraft.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchino et al, Kobayashi and Blanchard as applied to claim 1 above, and further in view of Suzuki. Uchino et al does not disclose that the engine includes an oil pump having a pump shaft connected integrally with the intermediate shaft.

Suzuki discloses that an engine which includes an oil pump 59 having a pump shaft connected integrally with an intermediate shaft 56 through gearing 62 and 64. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to provide to Uchino et al an oil pump having a pump shaft connected integrally with the intermediate shaft similar to that of Suzuki. Uchino discloses the use of an oil pump with oil tank 31, but does not disclose its location. By locating an oil pump in Uchino et al as taught by Suzuki, the oil pump can be located close to the oil tank 31 of Uchino et al.

5. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchino et al, Kobayashi et al and Blanchard as applied to claim 1 above, and further in view of Nitta et al.

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Uchino et al as modified by Blanchard and Kobayashi does not disclose the engine having a camshaft drive gear mounted on one end portion of the crankshaft to drive a camshaft driven gear mounted on one end of a camshaft located above each of the cylinders and a generator mounted on an opposite end portion of the crankshaft and wherein the engine has a relay gear provided between the camshaft drive gear and the camshaft driven gear, and the relay gear has a first relay gear, and a second relay gear located closer to a center of the engine than the first relay gear in a longitudinal direction of the crankshaft and configured to rotate integrally with the first relay gear, wherein the first relay gear meshes with the camshaft drive gear and the second relay gear is connected to the shaft driven gear through a chain or a belt.

Nitta et al discloses the camshaft drive gear 32b, the camshaft driven gear located on the camshaft 16b, the generator 24, the first relay gear 32a and the second relay gear which drives the chain or belt 16c.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to modify the engine of Uchino et al to have a camshaft drive gear mounted on one end portion of the crankshaft to drive a camshaft driven gear mounted on one end of a camshaft located above each of the cylinders and a generator mounted on an opposite end portion of the crankshaft and wherein the engine has a relay gear provided between the camshaft drive gear and the camshaft driven gear, and the relay gear has a first relay gear, and a

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second relay gear located closer to a center of the engine than the first relay gear in a longitudinal

direction of the crankshaft and configured to rotate integrally with the first relay gear, wherein the first relay gear meshes with the camshaft drive gear and the second relay gear is connected to the shaft driven gear through a chain or a belt in view of those of Nitta et al.

Motivation to do so is to provide to the modified engine of Uchino et al a drive for the camshaft which is already know and proven and a generator location which is already know and proven.

Allowable Subject Matter

6. Claims 8, 9, 13, 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherman D. Basinger whose telephone number is 703-308-1139 (571-272-6679 after April 11, 2005). The examiner can normally be reached on M-F (6:00-2:30 ET)/5:30-2:00(after 4/11/05).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on 703-308-0230. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sherman D. Basinger
Primary Examiner
Art Unit 3617 3/10/05

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